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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,637

08/02/2006

Tomokazu Harano

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4284

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EXAMINER

PENG, CHARLIE YU

ART UNIT

PAPER NUMBER

2883

NOTIFICATION DATE

DELIVERY MODE

03/31/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary	Application No. 10/597,637	Applicant(s) HARANO ET AL.	
	Examiner CHARLIE Y. PENG	Art Unit 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/14/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to because Fig. 9 includes foreign characters. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "and/or" is inherently indefinite as it fails to give a clear understanding whether subject matters are to be taken in combination or in alternate. Claim language such as "a light-sensitive element for..., a light emitting element for..., or both/a transceiver for..." is suggested.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan Patent Publication 2001-043934 to Sasaki et al. in view of Japan Patent Publication 2001-311846 to Shishido et al. Sasaki teaches a photoelectric composite type connector comprising two or more conductivity-type optical fibers 7 each having a fiber wire 7a inside and a conductor 7b outside; a housing 1 to which the fibers 7 are connected; an optical connection part 2 disposed inside the housing and optically connected to the fibers 7; wherein the optical connection part 2 is provided with a carrier and two or more light receiving and emitting elements; a flat spring projection 8 that carries out press deformation of the fibers 7 and performs contact with an electric contact part 5a; wherein the housing 1 has three walls enclosing the fibers and the

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optical connection part 2 is disposed on a third/middle wall of the three walls. (See Drawing 1 and [0013]-[0015].)

5. Sasaki does not teach using a flexible sheet-shaped base board having a light guide inside and conductor patterns provided on a surface enabling simultaneous optical and electric signal transmission. In reviewing conventional art, Shishido discloses that “not only an electrical part but the optical component is loaded together more often on the same printed circuit board, and optical wiring, such as an optical fiber, is also used with electric wiring within such a printed circuit board.” [0002] Such conventional methods, however, suffer from having to use vacuum devices that are “expensive” and “reduces productivity”. [0015] Shishido offers an invention that comprises an “electric wiring and an optical wiring mixed-loading multilayer substrate” to overcome such shortcomings in the conventional art. [0001] The multilayer substrate comprises a conductor sheet bonded to a flexible optical waveguide sheet surface, wherein the optical waveguide comprises a macromolecular core 68a, an intermediate clad 60a, and an upper clad 70, and wherein the conductor sheet is patterned to a defined shape to form an electrical wiring pattern 90a, 91a. It would have been obvious to one having ordinary skill in the art at the time the invention was made to improve upon Sasaki's invention in the manner suggested by Shishido by replacing the optical fibers with the mixed-loading multilayer substrate for the purpose of lowering manufacturing cost and improving productivity.

6. With specific reference to claims 3 and 4, Shishido suggests an alternative embodiment wherein an optical signal propagating through the waveguide may be reflected 90° by a mirror 112 to a photodetector 120.

Allowable Subject Matter

7. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Sasaki and Shishido suggest the compound connector as disclosed but fail to teach or suggest the combination of several elements including a rotatably closable cover attached to the connector body, a protrusion on each contact and a comparison of a measure of a clearance between the protrusion on the contact and the second wall and a measure of thickness of the flexible waveguide sheet. No relevant prior art suggests these additional limitations as claimed, and the thicknesses as claimed ensures adequate electrical connections between the waveguide sheet and the contacts, it is the examiner's opinion that prior art fails to render obvious the combinations of all the features as disclosed, in view of the rest of the limitations of the base claim 1.

8. Claims 6-8 are also objected but allowable as dependent claims of claim 5.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLIE Y. PENG whose telephone number is (571)272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charlie Y. Peng/
Patent Examiner, Art Unit 2883

03/24/2008